

# Linear measuring technology

<b>Draw-wire mechanics with encoder</b>	<b>Draw-wire encoder C105</b>	<b>Measuring length max. 6 m Traverse speed max. 3 m/s</b>
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The draw-wire encoder C105 can be combined with all encoders having a size 58 synchro flange and 6 mm shaft.

Kübler's encoders portfolio offers the suitable Sendix encoder for every application.



**Flexible and simple**

- Possibility for user to exchange encoder.
- Measuring lengths 2800 mm or 6000 mm.
- Simple installation.
- Scalable analog output with limit switch function.

**Order code with encoder (incremental, absolute)**

D	8	.	1	.	XXX	.	XX	XX	.	XXXX
Type				a	b	c	d	e		

<p><b>a Measuring range</b></p> <p>106 = 6000 mm 2A1 = 2800 mm</p>	<p><b>b Encoder used</b></p> <p>2Z = Sendix 5000, incremental M3 = Sendix M5863, absolute F3 = Sendix F5863, absolute 63 = Sendix 5863, absolute M8 = Sendix M5868, absolute F8 = Sendix F5868 absolute 68 = Sendix 5868, absolute</p>	<p><b>c Output circuit</b> depends on the encoder used</p> <p><b>d Type of connection</b> depends on the encoder used</p> <p><b>e Resolution / Protocol / Options</b> depends on the encoder used</p>
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Standard resolutions for draw-wire with incremental encoder			
Drum circumference [mm]	200	200	200
Pulses / revolution [ppr]	200	2000	4000
Pulses / mm	1	10	20
Resolution [mm]	1	0.1	0.05

Standard resolutions for draw-wire with absolute encoder Sendix M5863 (12 bit ST) or M5868 (12 bit ST, programmable via bus)	
Drum circumference [mm]	200
Pulses / revolution [ppr]	4096
Pulses / mm	20.5
Resolution [mm]	0.05

**Recommended standard variants (with incremental, absolute encoder)**

Order no. draw-wire encoder	Mounted encoder	Interface	Power supply	Type of connection	Resolution / Protocol	Option
D8.1xxx.2Z54.2000	Sendix 5000 (8.5000.B154.2000)	Push-pull with inverted signal	10 ... 30 V DC	1 x radial M12 connector	2000 ppr	-
D8.1xxx.M324.G222	Sendix M5863 (8.M5863.4124.G222)	SSI	10 ... 30 V DC	radial M12 connector	4096 ppr / SSI-Gray-Code	-
D8.1xxx.M824.2122	Sendix M5868 (8.M5868.4124.2122)	CANopen	10 ... 30 V DC	radial M12 connector	CANopen encoderprofil DS406 V4.0	-

**Other variants (with absolute encoder)**

Order no. draw-wire encoder	Mounted encoder	Interface	Power supply	Type of connection	Resolution / Protocol	Option
D8.1xxx.F326.G223	Sendix F5863 (8.F5863.2126.G223)	SSI	10 ... 30 V DC	1 x radial M12 connector	4096 ppr / SSI-Gray-Code	SET button + status LED
D8.1xxx.6326.G223	Sendix 5863 (8.5863.2126.G223)	SSI	10 ... 30 V DC	1 x radial M12 connector	4096 ppr / SSI-Gray-Code	SET button + status LED
D8.1xxx.F82E.2123	Sendix F5868 (8.F5868.212E.2123)	CANopen	10 ... 30 V DC	1 x radial M12 connector	CANopen encoder profile DS406 V3.2	SET button
D8.1xxx.6822.2123	Sendix 5868 (8.5868.2122.2123)	CANopen	10 ... 30 V DC	2 x radial M12 connector	CANopen encoder profile DS406 V3.2	SET button
D8.1xxx.M834.3222	Sendix M5868 (8.M5868.4134.3222)	SAE J1939	10 ... 30 V DC	1 x radial M12 connector	SAE J1939	-
D8.1xxx.6832.3113	Sendix 5868 (8.5868.2132.3113)	PROFIBUS	10 ... 30 V DC	3 x radial M12 connector	Profibus-DP V0 encoder profile Class 2	SET button
D8.1xxx.68B2.B212	Sendix 5868 (8.5868.21B2.B212)	EtherCAT	10 ... 30 V DC	3 x radial M12 connector	EtherCAT with CoE 3.2.10	-
D8.1xxx.68C2.C212	Sendix 5868 (8.5868.21C2.C212)	PROFINET IO	10 ... 30 V DC	3 x radial M12 connector	PROFINET encoder profile version 4.1	-
D8.1xxx.F8AN.A222	Sendix F5868 (8.F5868.21AN.A222)	EtherNet/IP	10 ... 30 V DC	3 x axial M12 connector	EtherNet/IP	-

## Draw-wire mechanics with encoder

### Draw-wire encoder C105

Measuring length max. 6 m  
Traverse speed max. 3 m/s

### Order code with encoder (analog, scalable with limit switch function)

D8.1 XXX . M1XX . XXXX  
Type a b c d e

- a** *Measuring range*  
106 = 6000 mm  
2A1 = 2800 mm
- b** *Encoder used*  
M1 = Sendix M5861, absolute <sup>1)</sup>
- c** *Output circuit*  
depends on the encoder used
- d** *Type of connection*  
depends on the encoder used
- e** *Resolution / Protocol / Options*  
depends on the encoder used

### Recommended standard variants (with encoder analog, scalable with limit switch function)

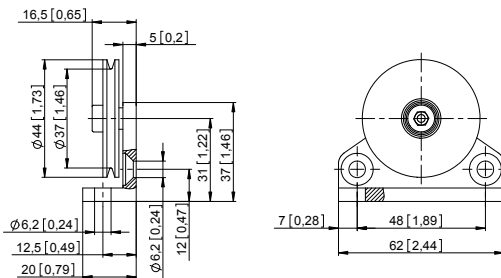
Order no. draw-wire encoder	Mounted encoder	Interface	Power supply	Type of connection	Resolution / Protocol	Option
D8.1xxx.M134.3512	Sendix M5861 (8.M5861.4134.3512)	Analog, 4 ... 20 mA	10 ... 30 V DC	radial M12 connector	12 Bit / 4 ... 20 mA	scalable with limit switch function <sup>2)</sup>
D8.1xxx.M144.4512	Sendix M5861 (8.M5861.4144.4512)	Analog, 0 ... 10 V	15 ... 30 V DC	radial M12 connector	12 Bit / 0 ... 10 V	scalable with limit switch function <sup>2)</sup>
D8.1xxx.M134.3612	Sendix M5861 (8.M5861.4134.3612)	Analog, 4 ... 20 mA	10 ... 30 V DC	radial M12 connector	12 Bit / 4 ... 20 mA	scalable without limit switch function <sup>2)</sup>
D8.1xxx.M144.4612	Sendix M5861 (8.M5861.4144.4612)	Analog, 0 ... 10 V	15 ... 30 V DC	radial M12 connector	12 Bit / 0 ... 10 V	scalable without limit switch function <sup>2)</sup>

### Accessories for draw-wire encoder

Dimensions in mm [inch]

Order no.

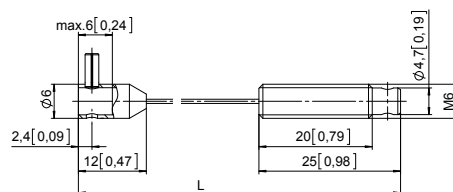
#### Guide pulley



- Technical data:**
- mounting bracket (anodized alum.)
  - guide pulley (plastic POM)
  - ball bearing (type 696-2R5)
- Scope of delivery:**
- 2 x countersunk screws for lateral fixing
  - 2 x hexagonal screws for fixing on a flat surface

**8.0000.7000.0045**

#### Extension cable



- Steel wire 2 m [6.56']
- Steel wire 5 m [16.40']
- Steel wire 10 m [32.81']
- Paraleine 2 m [6.56']

**8.0000.7000.0033**

**8.0000.7000.0034**

**8.0000.7000.0035**

**8.0000.7000.0032**

### Connection technology for analog sensor

Order no.

#### Cordset, pre-assembled

- M12 female connector with coupling nut, 5-pin  
2 m [6.56'] PVC cable
- M12 female connector with coupling nut, 4-pin  
2 m [6.56'] PVC cable

**05.00.6081.2211.002M**

**05.00.6031.4411.002M**

#### Connector, self-assembly (straight)

- M12 female connector with coupling nut, housing metal, 5-pin
- M12 female connector with coupling nut, housing metal/plastic, 5-pin
- M12 female connector with coupling nut, housing metal, 5-pin

**8.0000.5116.0000**

**05.B-8151-0/9**

**8.0000.5121.0000.Ex**

Additional connectors can be found in the connection technology section or in the connection technology area of our website at: [www.kuebler.com/connection\\_technology..](http://www.kuebler.com/connection_technology..)

<sup>1)</sup> With ccw option.

<sup>2)</sup> Delivery condition: unscaled.

Description for scaling and limit switch function see data sheet M5861.

